Electronic Bridge Staking Data

Steve Seivert

Transportation Engineer
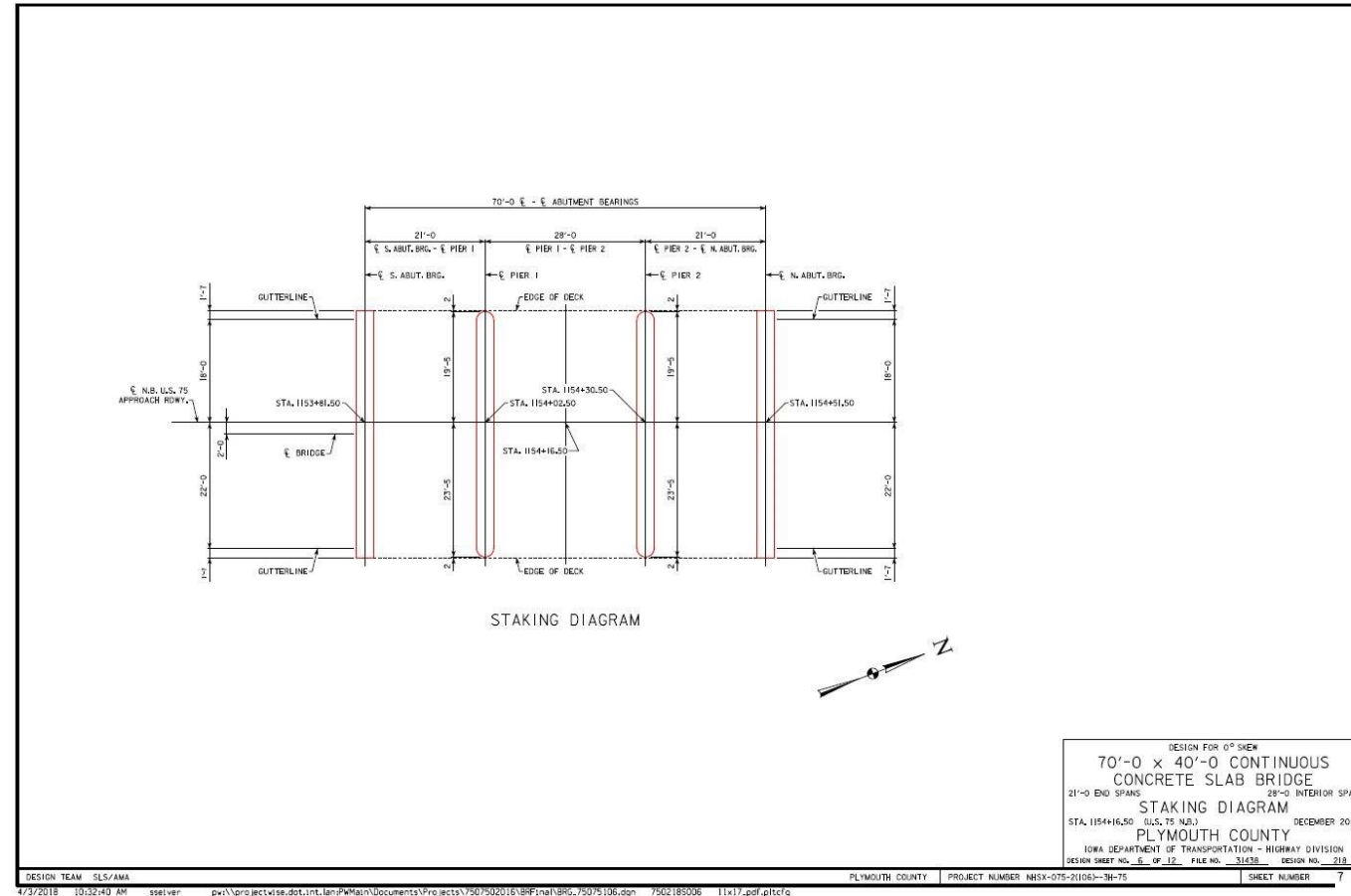Office of Bridge and Structures
Iowa Department of Transportation
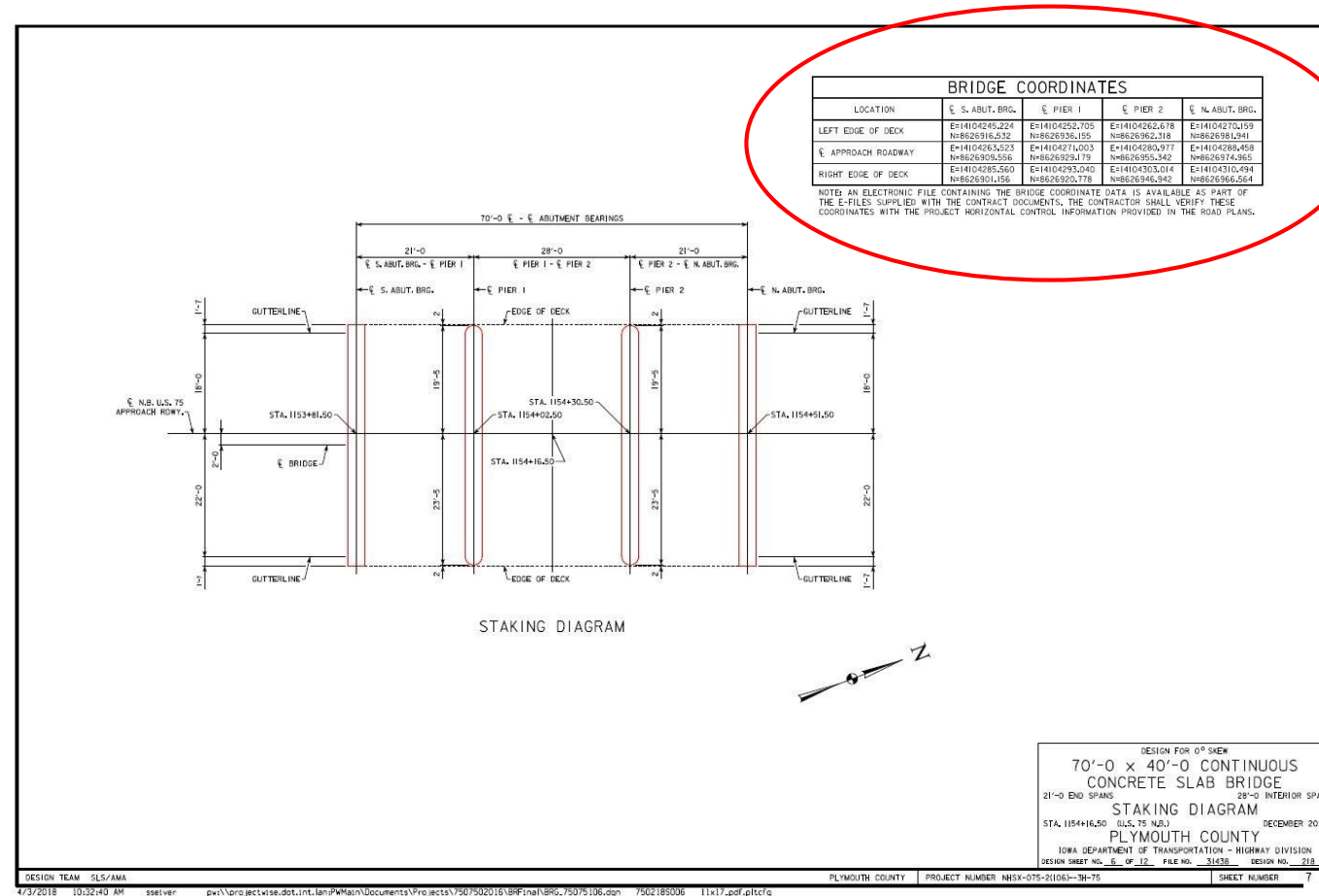Office: 515-233-7949
steve.seivert@iowadot.us

Current Staking Diagram for 3-span

Bridge Coordinate Data

Bridge Coordinate Data

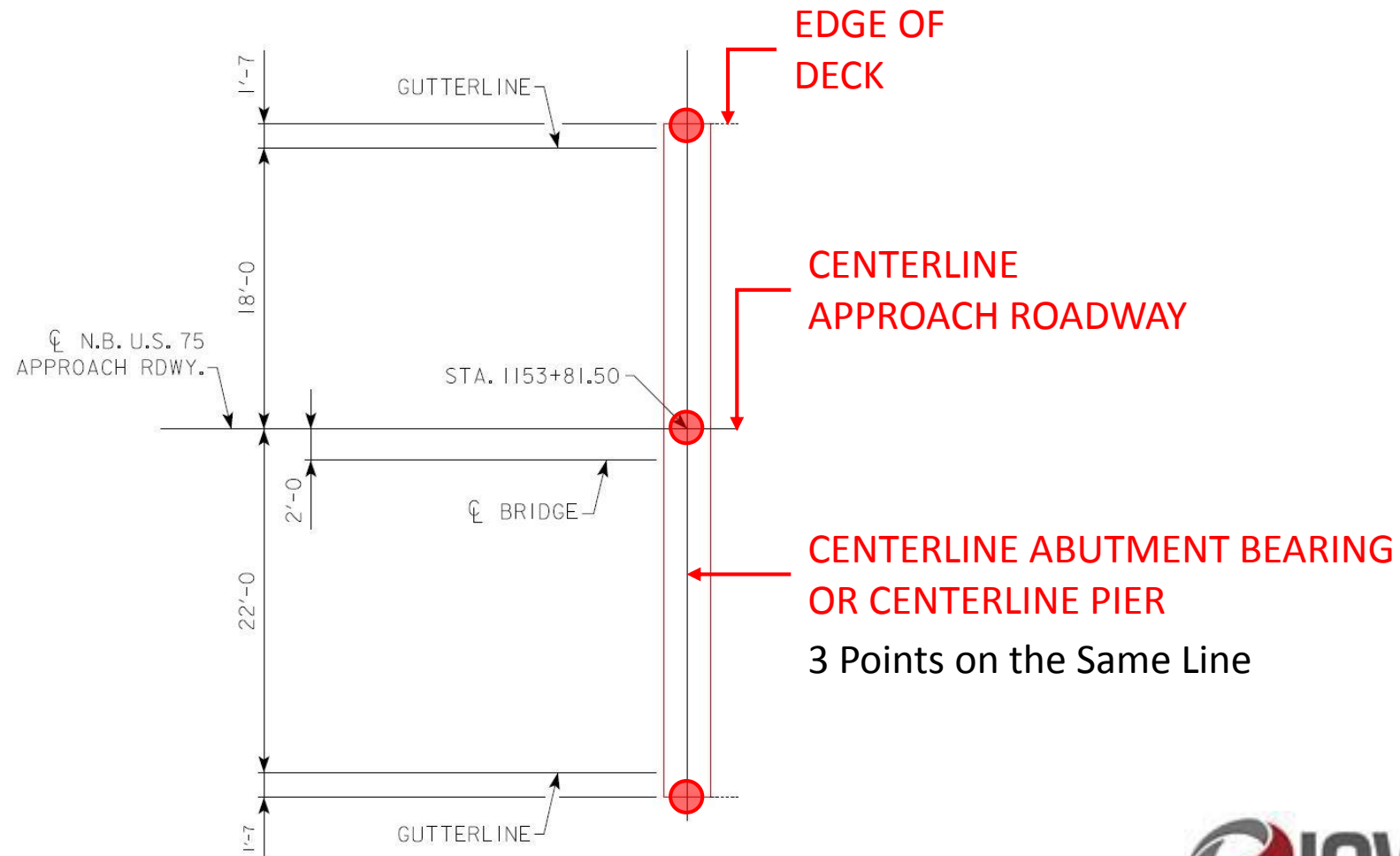**3-Span Example:**

BRIDGE COORDINATES

LOCATION	₵ S. ABUT. BRG.	₵ PIER 1	₵ PIER 2	₵ N. ABUT. BRG.
LEFT EDGE OF DECK	E=14104245.224 N=8626916.532	E=14104252.705 N=8626936.155	E=14104262.678 N=8626962.318	E=14104270.159 N=8626981.941
₵ APPROACH ROADWAY	E=14104263.523 N=8626909.556	E=14104271.003 N=8626929.179	E=14104280.977 N=8626955.342	E=14104288.458 N=8626974.965
RIGHT EDGE OF DECK	E=14104285.560 N=8626901.156	E=14104293.040 N=8626920.778	E=14104303.014 N=8626946.942	E=14104310.494 N=8626966.564

NOTE: AN ELECTRONIC FILE CONTAINING THE BRIDGE COORDINATE DATA IS AVAILABLE AS PART OF THE E-FILES SUPPLIED WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL VERIFY THESE COORDINATES WITH THE PROJECT HORIZONTAL CONTROL INFORMATION PROVIDED IN THE ROAD PLANS.
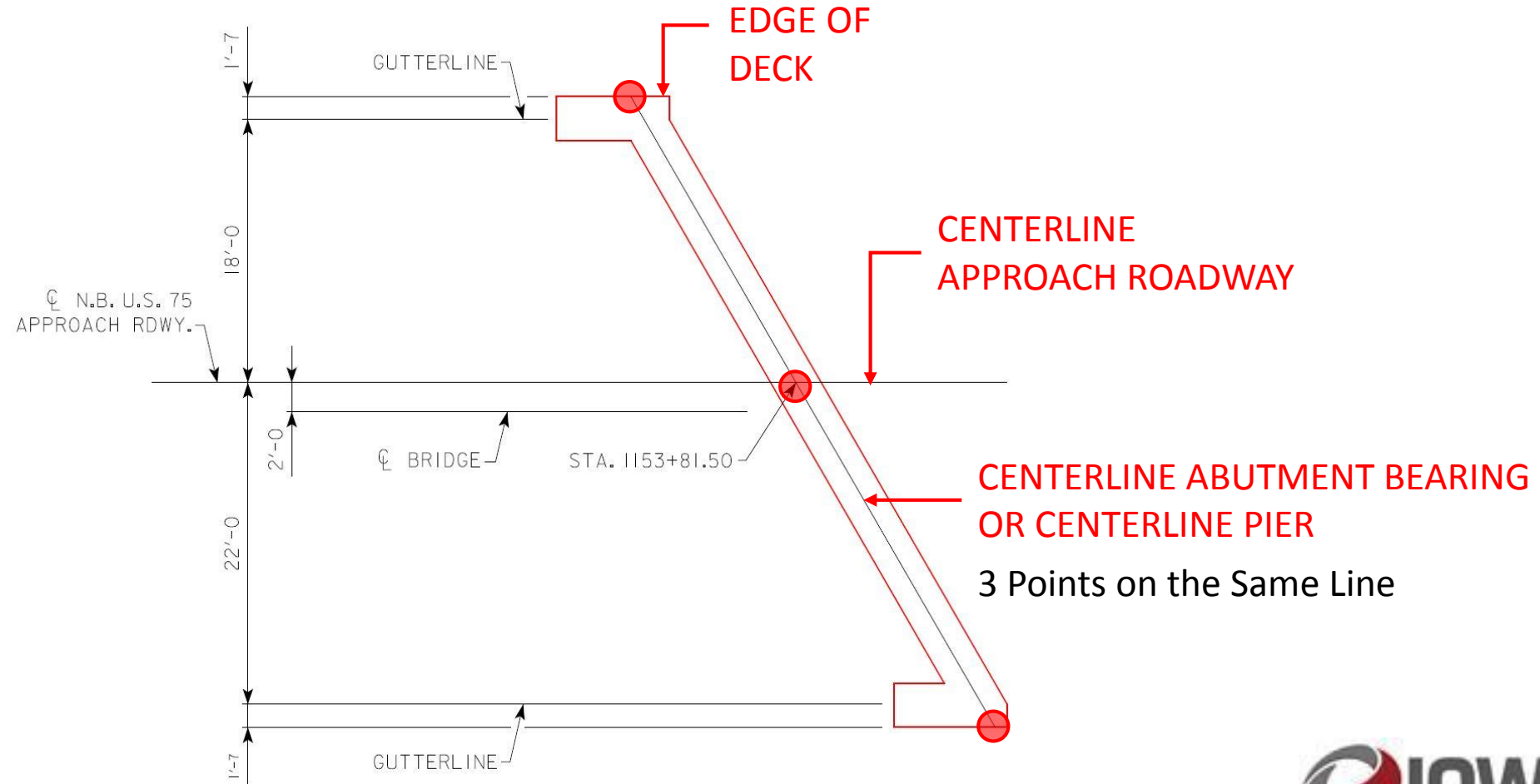
Bridge Coordinate Data
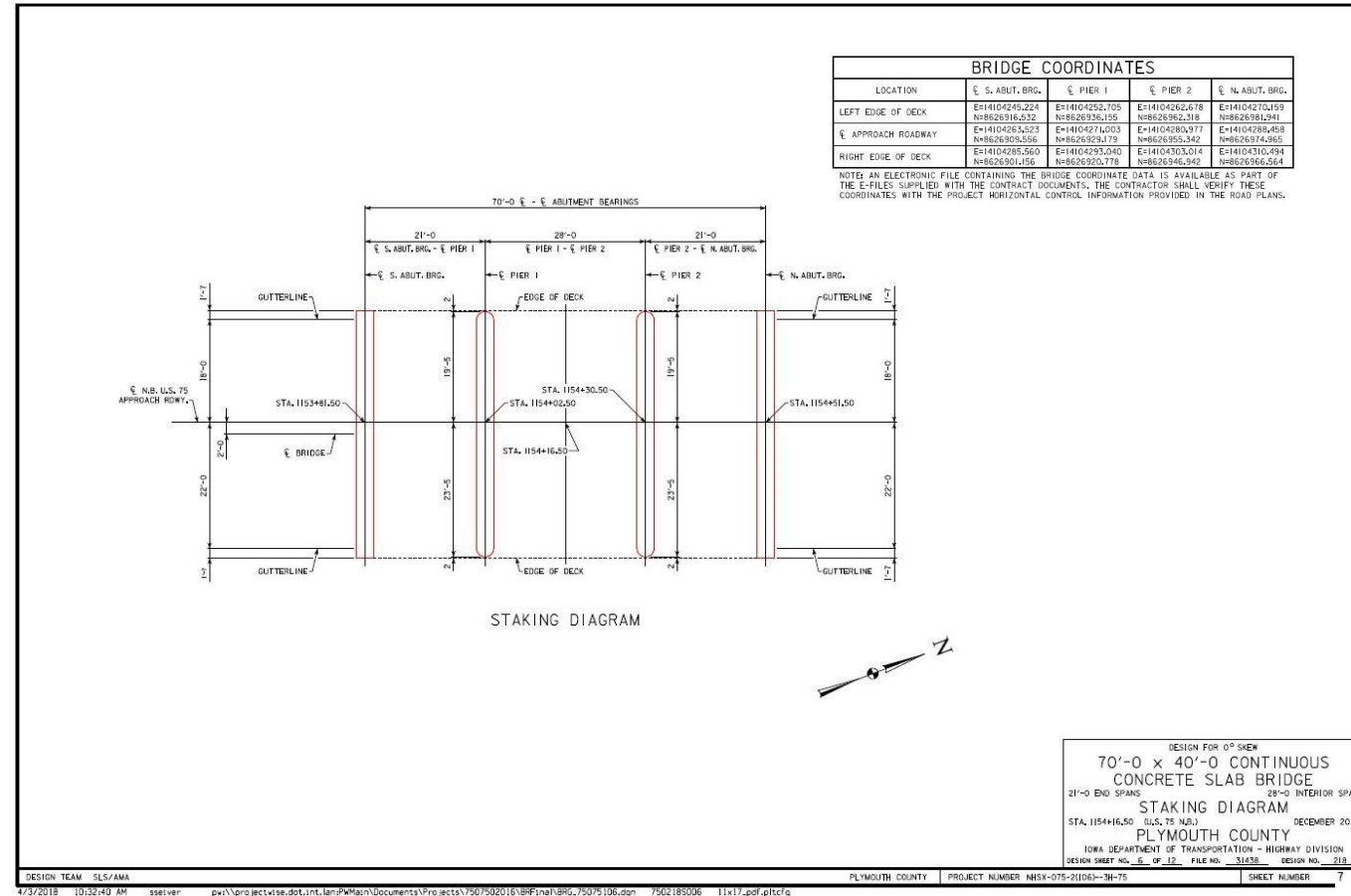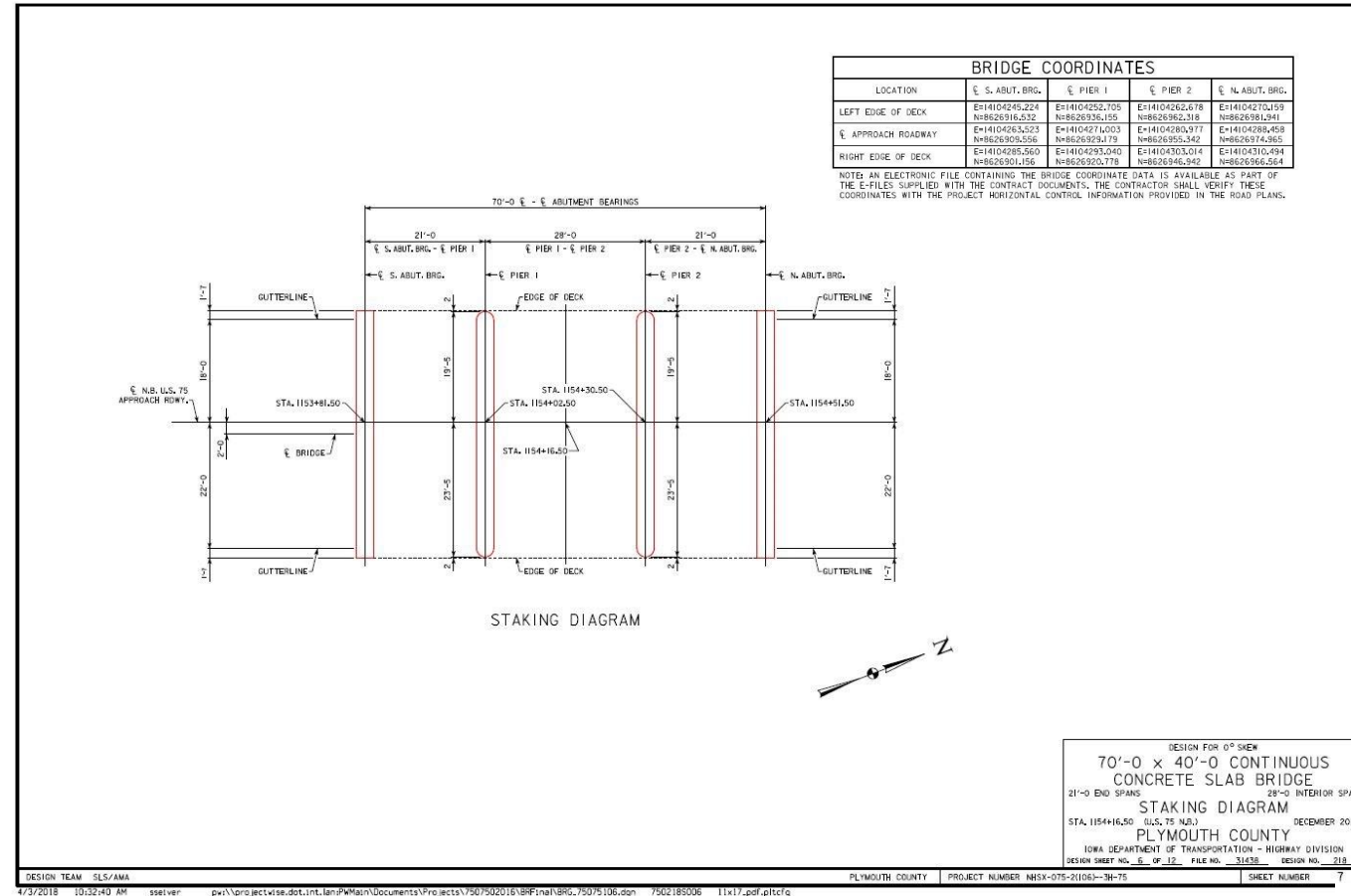
Key Points for Each Substructure Element

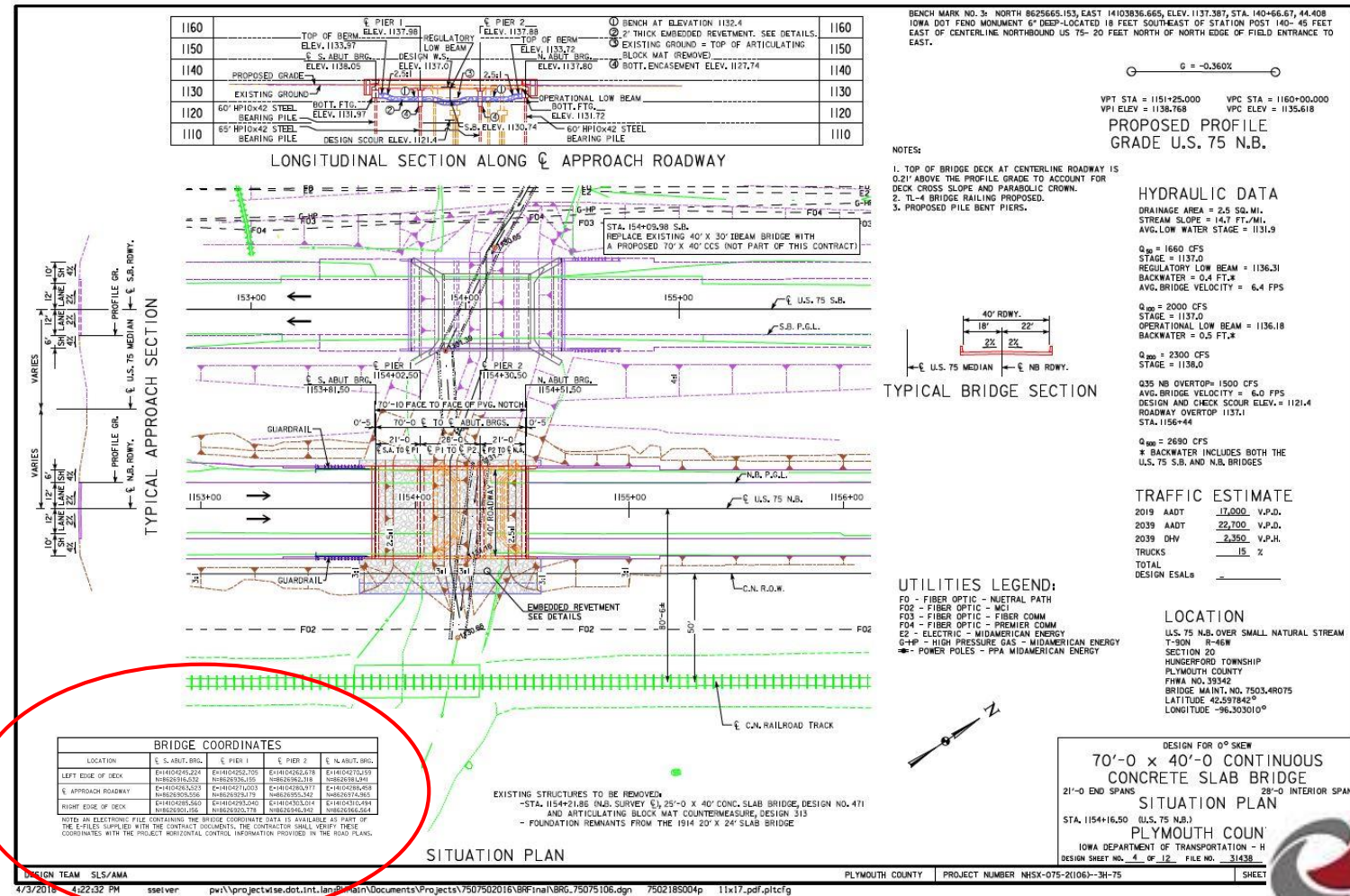# Key Points for Each Substructure Element

Skewed Abutment Example

EDGE OF DECK

CENTERLINE APPROACH ROADWAY
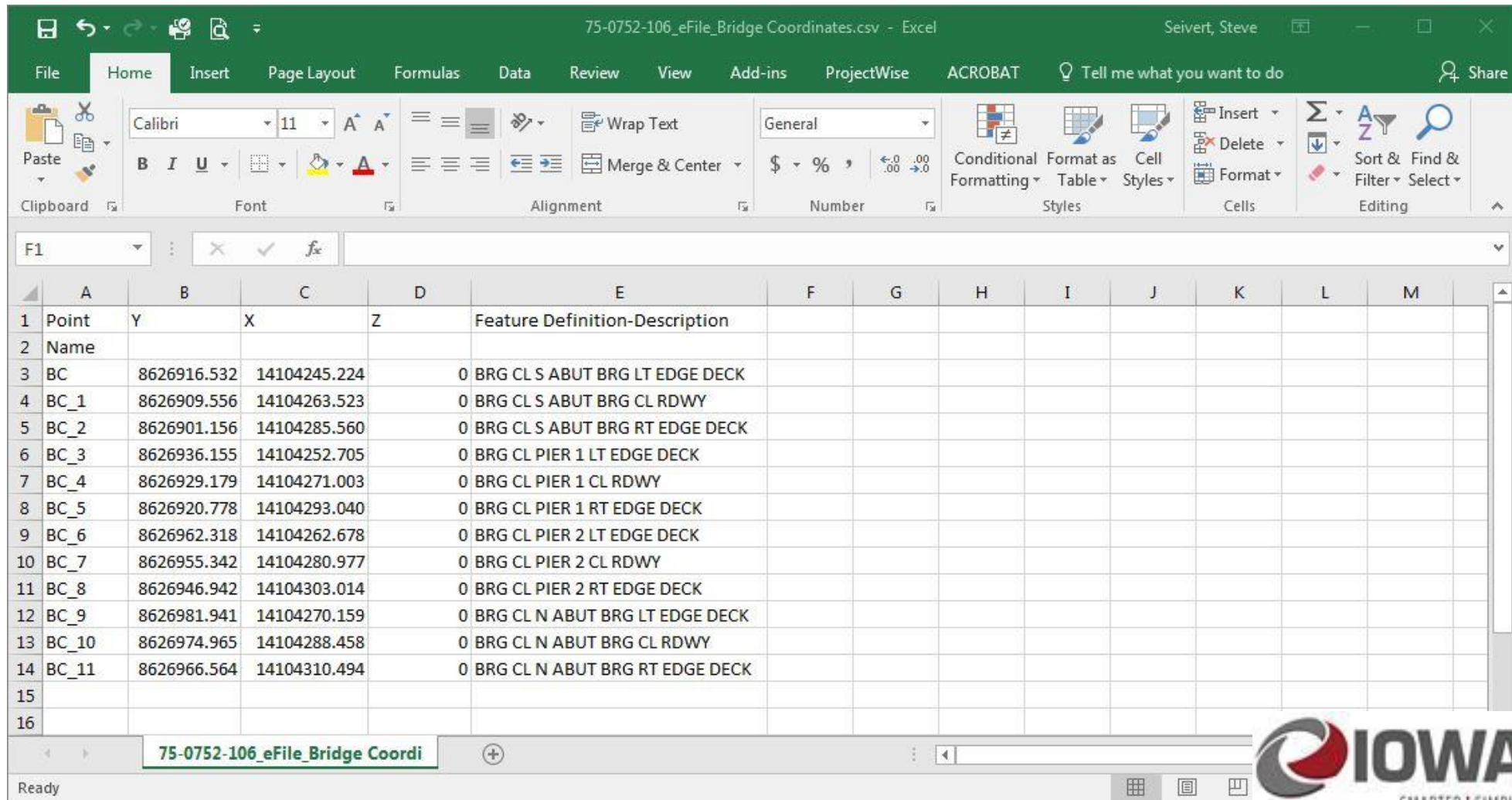
CENTERLINE ABUTMENT BEARING OR CENTERLINE PIER

3 Points on the Same Line

Staking Diagram

Situation Plan

eFile   CSV(MS-DOS)

eFile

Project Folder Structure in ProjectWise – Bridge Office   May 4, 2018
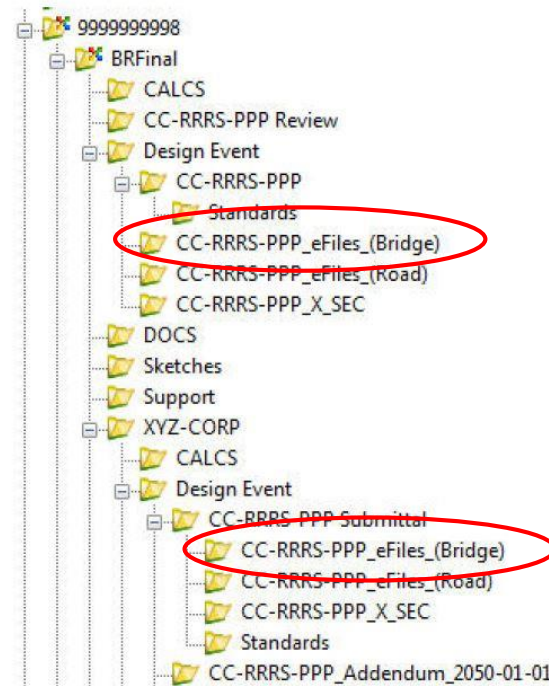
The file shall be made available to the Contractor as part of the eFiles supplied with the contract documents at turn-in.

Review

TABLE

- Need to ensure the bridge is shown in correct coordinate system. Reference the Structures model if needed.
- Use MicroStation CADD tools to insert and edit cell.
- 3-points per element.
- Place on Staking Diagram or Situation/Site Plan

eFile

- File format: Standard IDOT Survey format, CSV (MS-DOS)
- Can create and export using OpenRoads tools - need correct configuration.
- Can also create using Excel.
- Store file in ProjectWise "eFiles_(Bridge)" folder.

SEE DOCUMENTATION FOR STEP-BY-STEP PROCESS